PDGFC Cell Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	PDGF-C (PDGFC), Cell Lysate
Full Product Name	Human PDGF-C Baculovirus-Insect cells Overexpression Lysate
Product Gene Name	PDGFC cell lysate
Product Synonym Names	Human PDGF-C/SCDGF Insect Cell Lysate (WB positive control); platelet derived growth factor C; Human FALLOTEIN Overexpression Lysate; Human SCDGF Overexpression Lysate
Sequence	Val235-Gly 345
Host	Baculovirus-Insect cells
Form/Format	1x Sample Buffer (1x modified RIPA buffer+1x SDS loading buffer). Modified RIPA Lysis Buffer: 50 mM Tris-HCl pH 7.4, 150 mM NaCl, 1mM EDTA, 1% Triton X-100, 0.1% SDS, 1% Sodium deoxycholate, 1mM PMSF.
Preparation and Storage	Store at 4 degree C for up to twelve months from date of receipt. After re-dissolution, aliquot and store at -80 degree C for up to twelve months. Avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt.
Molecular Weight	39,029 Da
Sequence Positions	121aa
Chromosome Location	Chromosome: 4; NC_000004.11 (157682763..157892546, complement). Location: 4q32
OMIM	608452
3D Structure	ModBase 3D Structure for Q9NRA1
Species	Human
Recommend Usage	1. Centrifuge the tube for a few seconds and ensure the pellet at the bottom of the tube.**2. Re-dissolve the pellet using 200uL pure water and boil for 2-5 min.**
Sequence Construction	A DNA sequence encoding the mature form of human PDGF-C (NP_057289.1) (Val 235-Gly 345) was fused with a polyhistidine tag at the C-terminus and a signal peptide at the N-terminus.
Preparation Method	Cell lysate was prepared by homogenization of the over-expressed cells in ice-cold modified RIPA Lysis Buffer with cocktail of protease inhibitors. Cell debris was removed by centrifugation. Protein concentration was determined by Bradford assay (protein assay, Microplate Standard assay). The cell lysate was boiled for 5 min in 1 x SDS loading buffer (50mM Tris-HCl pH 6.8, 12.5% glycerol, 1% sodium dodecylsulfate, 0.01% bromophenol blue) containing 5% b-mercaptoethanol, and lyophilized.
Applications Tested/Suitable for PDGFC cell lysate	Western Blot (WB)
Application Notes for PDGFC cell lysate	WB: Use at an assay dependent dilution.

Related Product Information for PDGFC cell lysate	PDGF-C is a member of the PDGF/VEGF family of growth factors with a unique domain organization and expression pattern. Platelet-derived growth factor receptors (PDGFRs) are catalytic receptors that have intracellular tyrosine kinase activity. They have roles in the regulation of many biological processes including embryonic development, angiogenesis, cell proliferation and differentiation, and contribute to the pathophysiology of some diseases, including cancer. There are two isoforms of the PDGFR receptor; PDGFRalpha and PDGFRbeta, which can form homo-or heterodimers. The endogenous PDGFR ligands are PDGF-A, -B, -C and -D, which induce receptor dimerization and transphosphorylation at specific tyrosine residues upon binding. This activates the intracellular kinase activity, initiating intracellular signaling through the MAPK, PI 3-K and PKCgamma pathways. PDGF-C acts as a specific ligand for alpha platelet-derived growth factor receptor homodimer, and alpha and beta heterodimer. Binding of this growth factor to its affinity receptor elicits a variety of cellular responses. PDGF-C appears to be involved in the three stages of wound healing: inflammation, proliferation and remodeling. PDGF-C is involved in fibrotic processes, in which transformation of interstitial fibroblasts into myofibroblasts plus collagen deposition occurs. This Human PDGF-C overexpression lysate was created in Baculovirus-Insect cells and intented for use as a Western blot (WB) positive control. Purification of PDGF-C protein from the overexpression lysate was verified.
Product References and Citations for PDGFC cell lysate	Li X, et al. (2000) PDGF-C is a new protease-activated ligand for the PDGF alpha-receptor. Nat Cell Biol. 2 (5): 302-9.Ding H, et al. (2004) A specific requirement for PDGF-C in palate formation and PDGFR-alpha signaling. Nat Genet. 36 (10): 1111-6.Choi SJ, et al. (2009) The PDGF-C regulatory region SNP rs28999109 decreases promoter transcriptional activity and is associated with CL/P. European Journal of Human Genetics. 17 (11): 774-84.
Other Notes	Small volumes of PDGFC cell lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PDGFC purchase	MBS8113671 is a cell lysate targeting PDGFC. Also known as Human PDGF-C Baculovirus-Insect cells Overexpression Lysate. Host: Baculovirus-Insect cells.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PDGFC. It may not necessarily be applicable to this product.

NCBI GI #	9994187
NCBI GeneID	56034
NCBI Accession #	NP_057289.1
UniProt Primary Accession #	Q9NRA1
UniProt Secondary Accession #	Q4W5M9; Q9UL22; B4DU34; B9EGR8
UniProt Related Accession #	Q9NRA1
GenBank Nucleotide #	NM_016205.2
NCBI Official Full Name	platelet-derived growth factor C
NCBI Official Synonym Full Names	platelet derived growth factor C
NCBI Official Symbol	PDGFC
NCBI Official Synonym Symbols	SCDGF; FALLOTEIN
UniProt Protein Name	Platelet-derived growth factor C
UniProt Synonym Protein Names	Fallotein; Spinal cord-derived growth factor; SCDGF; VEGF-E
Protein Family	Platelet-derived growth factor
UniProt Gene Name	PDGFC
UniProt Synonym Gene Names	SCDGF; PDGF-C; SCDGF; PDGFC latent form
UniProt Entry Name	PDGFC_HUMAN

NCBI Protein Information	platelet-derived growth factor C; PDGF-C; VEGF-E; spinal cord-derived growth factor; secretory growth factor-like protein
NCBI Summary for PDGFC	The protein encoded by this gene is a member of the platelet-derived growth factor family. The four members of this family are mitogenic factors for cells of mesenchymal origin and are characterized by a core motif of eight cysteines. This gene product appears to form only homodimers. It differs from the platelet-derived growth factor alpha and beta polypeptides in having an unusual N-terminal domain, the CUB domain. Alternatively spliced transcript variants have been found for this gene. [provided by RefSeq, Sep 2010]
UniProt Comments for PDGFC	PDGFC: Growth factor that plays an essential role in the regulation of embryonic development, cell proliferation, cell migration, survival and chemotaxis. Potent mitogen and chemoattractant for cells of mesenchymal origin. Required for normal skeleton formation during embryonic development, especially for normal development of the craniofacial skeleton and for normal development of the palate. Required for normal skin morphogenesis during embryonic development. Plays an important role in wound healing, where it appears to be involved in three stages: inflammation, proliferation and remodeling. Plays an important role in angiogenesis and blood vessel development. Involved in fibrotic processes, in which transformation of interstitial fibroblasts into myofibroblasts plus collagen deposition occurs. The CUB domain has mitogenic activity in coronary artery smooth muscle cells, suggesting a role beyond the maintenance of the latency of the PDGF domain. In the nucleus, PDGFC seems to have additional function. Belongs to the PDGF/VEGF growth factor family. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Secreted, signal peptide; Secreted Chromosomal Location of Human Ortholog: 4q32 Cellular Component: Golgi membrane; extracellular space; cell surface; endoplasmic reticulum lumen; cytoplasm; plasma membrane; extracellular region; nucleus Molecular Function: protein binding; protein homodimerization activity; growth factor activity; platelet-derived growth factor receptor binding Biological Process: organ morphogenesis; embryonic development; positive regulation of fibroblast proliferation; central nervous system development; transmembrane receptor protein tyrosine kinase activation (dimerization); positive regulation of cell division; platelet-derived growth factor receptor signaling pathway; regulation of peptidyl-tyrosine phosphorylation; positive regulation of DNA replication
Research Articles on PDGFC	**1.** Single nucleotide polymorphisms in the PDGF-C gene are linked to the development of oral clefts.
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